Sentinel Pro

1:1 700-3000 VA

Sentinel Pro has a unique and modern design and improved performance developed by the Riello UPS research and development team. Sentinel Pro uses on-line double conversion technology, resulting in the highest levels of reliability and maximum protection for critical loads such as servers, and IT and voice/data applications.

For business continuity applications requiring long battery runtimes, battery autonomy can be extended up to several hours using ER models fitted with more powerful battery chargers.

The front display panel has been entirely redesigned, adding an LCD display that shows the input and output voltages, battery readings and UPS operating status information. The inverter and the microprocessor control stage has been completely redesigned to provide increased efficiency and greater configuration options.

Maximum expandability: the Sentinel Pro is supplied as standard with a USB port and an expansion slot for protocol conversion or relay contacts boards.

With energy savings in mind, Sentinel Pro is also fitted with a shut-off button to reduce energy consumption to zero during prolonged periods of inactivity (ECO LINE). Sentinel Pro is available in 700 VA, 1000 VA, 1500 VA, 2200 VA and 3000 VA models.

HIGHLIGHTS

- Operating flexibility
- Emergency function
- Battery optimisation
- Runtime expandability
- Low noise level
Operating flexibility
Different operating modes that can be programmed according to user requirements and the load to be powered have been introduced in order to reduce energy consumption.

- **On line**: maximum load protection and output voltage waveform quality
- **Economy Mode**: the UPS uses line interactive technology, with the load powered by the mains, reducing consumption and thus improving efficiency (up to 98%).
- **Smart Active Mode**: the UPS automatically selects on-line or line interactive operation, depending on the quality of the mains supply, checking the number, frequency and type of disturbances present.
- **Stand by Off (emergency)**: The UPS supplies the load only when the mains fails. The inverter begins working with a progressive start-up sequence to prevent inrush currents.
- **Frequency converter** operation (50 or 60 Hz).

Emergency function
This configuration ensures the operation of emergency systems that must be supplied in the event of a mains power failure, such as emergency lighting, fire detection/extinguishing systems and alarms. When the mains power supply fails, the inverter begins powering the loads with a progressive start-up (Soft Start) in order to prevent overload. Sentinel Pro is compliant for installation in medium-voltage transformer rooms in accordance with applicable legislation, for the power supply with reserve charge of medium-voltage coils.

Battery optimisation
The Sentinel Pro range has a deep discharge protection device to optimise battery life. Periodically the UPS carries out a battery efficiency test (which can also be manually activated); its wide input voltage tolerance range helps to reduce battery usage and maintain performance over time.

Runtime expandability
Optional battery extension packs can be connected to increase UPS runtime. In addition the Sentinel Pro range includes ER versions with no internal batteries and more powerful battery chargers for longer runtimes.

Low noise level
Thanks to the use of high frequency components and load-based fan speed control, the noise produced by the UPS is less than 40 dBA.

Features
- Filtered, stabilised and reliable voltage: double conversion on-line technology (VFI compliant with IEC 62040-3) with filters for the suppression of atmospheric disturbances.
- High overload capability (up to 150%)
- Programmable Auto-restart when mains is restored
- Battery start-up (cold start)
• Power factor correction (UPS input power factor, close to 1)
• Wide input voltage tolerance range (from 140 V to 276 V) without battery intervention.
• Runtime extendable up to several hours
• Fully configurable using UPS Tools configuration software
• Highly reliable batteries (automatic and manually-activated battery test)
• High level of UPS reliability (total microprocessor control)
• Low impact on the mains (sinusoidal take up).

Advanced communications
• Multi-platform communication for all operating systems and network environments: PowerShield3 supervision and shutdown software for Windows operating systems 8, 7, 2008, Vista, 2003, XP, Linux, Mac OS X, Sun Solaris, VMware ESX and other Unix operating systems.
• UPS Tools configuration and customisation software supplied as standard
• RS232 serial port and opto-isolated contacts
• USB port
• Slot for communications boards.

2-YEAR WARRANTY

OPTIONS

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<td>Automatic Bypass 16 A</td>
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SOFTWARE

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<tr>
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<td>Dimensions (mm)</td>
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### MODELS

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<th>SEP 1000</th>
<th>SEP 1000 ER</th>
<th>SEP 1500</th>
<th>SEP 2200</th>
<th>SEP 2200 ER</th>
<th>SEP 3000</th>
<th>SEP 3000 ER</th>
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<tbody>
<tr>
<td>POWER</td>
<td>700 VA/560 W</td>
<td>1000 VA/800 W</td>
<td>1500 VA/1200 W</td>
<td>2200 VA/1760 W</td>
<td>3000 VA/2400 W</td>
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### INPUT

Nominal voltage: 220-230-240 Vac
Voltage range without battery intervention: 140 Vac < Vin < 276 Vac @50% LOAD / 184 Vac < Vin < 276 Vac @ 100% LOAD
Maximum permitted voltage: 300 Vac
Nominal frequency: 50/60 Hz
Frequency range: 50 Hz ± 5% / 60 Hz ± 5%
Power factor: > 0.99
Current distortion: ≤7%

### BYPASS

Voltage tolerance: 180 - 264 Vac
Frequency tolerance: Frequency selected (from ±1.5Hz to ±5Hz configurable)

### OUTPUT

Voltage distortion with linear load / with non-linear load: < 2% / < 4%
Frequency: Selectable: 50 Hz or 60 Hz or self-learning
Static variation: ± 1%
Dynamic variation: ≤ 5% in 20 msec.
Waveform: Sinusoidal
Current crest factor: 3 : 1
Efficiency: 98%

### BATTERIES

Type: VRLA AGM maintenance-free lead based; Supercaps
Recharge time: 2-4 hours N.A. 2-4 hours N.A. 2-4 hours N.A.

### OVERLOAD TIMES

100% < Load < 110%: 2 minutes
110% < Load < 150%: 5 seconds
Load > 150%: 1 second

### OTHER FEATURES

Net weight (kg): 10.9 13.3 7 14.8 25.6 10.6 28 14
Gross weight (kg): 12.5 14.9 8.6 15.5 28.8 13.8 31.2 17.2
Dimensions (WxDxH) (mm): 158 x 422 x 235 190 x 446 x 333
Packaging dimensions (WxDxH) (mm): 245 x 500 x 340 325 x 585 x 470
Protection against overvoltage: 300 joules
Protections: Overcurrent - short-circuit - overvoltage - undervoltage - temperature - excessive low battery
Communications: USB / DB9 with RS232 and contacts / Slot for communications interface
Input plugs: 1 IEC 320 C14 1 IEC 320 C20
Output sockets: 4 IEC 320 C13 8 IEC 320 C13 8 IEC 320 C13 + 1 IEC 320 C19
Operating temperature: 0 °C / +40 °C
Relative humidity: < 95% non-condensing
Colour: Black
Noise level at 1 m: < 40 dBA
Standard equipment provided: Power cable, IEC-IEC cable, USB cable, safety manual, quick start guide